



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/687,508	10/15/2003	Peijun Jiang	2002B140/2	9030
23455 7590 01/26/2007 EXXONMOBIL CHEMICAL COMPANY 5200 BAYWAY DRIVE P.O. BOX 2149 BAYTOWN, TX 77522-2149			EXAMINER LU, C CAIXIA	
			ART UNIT 1713	PAPER NUMBER
			MAIL DATE 01/26/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/687,508	JIANG ET AL.	
	Examiner	Art Unit	
	Caixia Lu	1713	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 December 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 119-138 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 119, 121-131 and 135-138 is/are rejected.
- 7) ☒ Claim(s) 120 and 132-134 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Objections***

1. Claims 134 together with its dependent claims 132 and 133 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 134 cannot depend on itself.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 119-131 and 135-138 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Applicants have cancel all of the claims previously filed and replaced them with the new set of claims.

Applicants need to indicate the support in the specification for the newly filed claims.

4. Claims 119-131 and 135-138 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Art Unit: 1713

(i) To be grammatical, in line 1 of claim 119, the term "The" should be replaced with "A" and the term "the" terms should be "a".

(ii) Currently, claim 119 does not require the polymer product to be a branched olefin polymer. Therefore, the examiner further suggest the following language for lines 1-2 of claim 119:

--A branches olefin polymer prepared from a continuous process comprising the following the steps of:--

(iii) The symbol "Mw" lacks definition. It is not clear what kind of molecular weight "Mw" represents, number average molecular weight or weight average molecular weight.

(iv) Claim 123 lacks antecedence. Claim 119 to which claim 123 depended on requires the first catalyst being capable of producing a polymer with a crystallinity of 5% or less, this type of catalyst cannot be a stereospecific metallocene catalyst compound.

### ***Claim Rejections - 35 USC § 102/103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 119, 121-131 and 135-138 are rejected under 35 U.S.C. 103(a) as obvious over Yang et al. (US 5,539,056), Tatsumi et al. (US 6,573,352) and .

The instant claims are directed to a polymer product prepared by a continuous process comprising contacting a first catalyst, a second catalyst, and C3 to C40 olefin at a temperature of greater than 100 °C at a residence of 120 minutes or less, wherein the first catalyst is capable of making amorphous polyolefin with Mw of 100,00 or less, and the second catalyst is capable of making crystalline polyolefin with Mw of 100,00 or less.

Yang's Examples 2-6 demonstrate the preparation of in situ blends of amorphous and crystalline propylene polymers by contacting a metallocene catalyst for making amorphous polyolefin, a metallocene catalyst for making crystalline polyolefin and propylene monomer.

It is noted that Yang does not expressly teach those metallocene catalyst is capable of produce polyolefin with Mw of 100,00 or less. However, Yang's metallocene catalysts are identical or substantially identical to those of the instant claims, one would have expected that those metallocene catalyst are inherently capable of producing polyolefin with Mw of 100,00 or less when proper amount hydrogen and/or aluminoxane is used in the polymerization system.

It is also noted that those examples are not conducted in a continuous process at a temperature of greater than 100 °C. However, Yang expressly teaches that the polymerization may be carried out in a continuous process at a temperature of as high as 120 °C.

Thus, it would have been obvious to a skilled artisan at the time the invention was made to employ Yang's teaching to prepare the situ blends at temperature as high

Art Unit: 1713

as 120 °C since such within the scope of Yang's teaching and in the absence of any showing criticality and unexpected results.

For similar rationale, Tatsumi's teaching of lines 44-62 of col. 10 and Examples 1-11 also renders the instant claims obvious.

***Allowable Subject Matter***

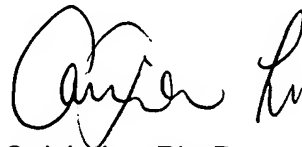
7. Claim 120 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The cited prior art does not teach or reasonably suggest the olefin polymer to have characteristic of a) to d) of the instant claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Caixia Lu whose telephone number is (571) 272-1106. The examiner can normally be reached from 9:00 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful and the matter is urgent, the examiner's supervisor, David Wu, can be reached at (571) 272-1114. The fax numbers for the organization where this application or proceeding is assigned is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-1700.



Caixia Lu, Ph. D.  
Primary Examiner